

REMARKS:

Applicants have cancelled claims 1-19 and added new claims 20-45. No new matter has been added by way of this preliminary amendment.

In a prior Office Action issued in parent application Serial Number 10/002,833, the Examiner objected to the claims as not being supported by the specification, and to the drawings for not showing every feature of the invention. The Examiner also rejected the claims under 35 USC 103 as being obvious over U.S. Patent No. 6,098,767 to Unrath, alone or in view of U.S. Patent No. 5,551,796 to Anderson. For the reasons set forth below, the Examiner's objections and rejections should not be applied to new claims 20-45, and this application should be passed to allowance.

Remarks About the Objections:

The Examiner previously objected to claim 4 in the '833 application as not being supported by the specification since the language covers rotation angles greater than 180°. Applicants have presented herein similar claims. Applicants respectfully disagree with the prior objection.

As a threshold matter, the drawings and specification clearly support the claim language of claim 4. Of course, however, claims may cover embodiments not shown or described in the specification. Accordingly, the Examiner's objection should be withdrawn.

Notwithstanding that the claims are fully supported, Applicants further note that, contrary to the Examiner's assertions, the specification *expressly* discloses that the "second bay 18 may be rotated by more than 180°," for example when "the rotation axis is positioned such that the back end 22 is lower than the front end 20 in the retracted position" (specification at 6, line 32 to 7, line 2) (see also specification at 7, lines 10-11 ("In some cases, the rotation angle 64 may be greater than 180°."). Applicants have added new Figure 15 to further illustrate this embodiment. Since the embodiment is fully supported by the specification as filed, no new matter has been added. Accordingly, the Examiner's objections should be withdrawn for this additional reason.

Remarks About the Prior Art Rejections:

In the Office Action received in the '833 application, all of the rejections under 35 USC 103 were based either solely or principally on Unrath. Applicant submits that there are substantial differences between the present invention and Unrath, and that the pending claims are patentable over the applied references.

In particular, as acknowledged by the Examiner, Unrath does not disclose rotating a second bay through an angle greater than 90° (Office Action at 3, para. 3). However, contrary to the Examiner's assertions, Unrath does not suggest to one of ordinary skill in the art that the bay can be rotated about a rotational joint by a rotation angle greater than 90°, as recited for example and without limitation in claims 20 and 39. Indeed, Unrath teaches against such a construction.

In particular, Unrath discloses that a slider 24 has a pair of "C-shaped channels 72 and 74 (FIGS. 4, 5, and 6) [that] extend vertically at the left and right sides of the distal end of the slider 24, with the channels facing distally" (Col. 3, lines 25-27). In turn, the crash cushion 28 is mounted to a C-shaped mounting plate 79, which extends laterally and is secured to brackets 76 and 78 (Col. 3, lines 33-35; FIGS. 2-4 and 6). "The top ends of brackets 76 and 78 are pivotally mounted in the channels 72 and 74, respectively, to pivot upwardly" (Col. 3, lines 28-30).¹ "The brackets 76 and 78 each comprise a square tube having a sleeve secured on one face, the sleeve being secured between side walls of one of the C-shaped channels 72 and 74" (Col. 3, lines 30-33). Accordingly, as can be seen in FIGS. 2-4 and 6, the channels 72 and 74 extend upwardly from the pivotal connection with the brackets 76 and 78 and engage the mounting plate 79 when the crash cushion is pivoted upwardly.

In this way, the mounting structure, and in particular the interference between the mounting plate 79 and the channels 72 and 74 *prevent* the crash cushion from rotating

¹ Applicants assume that the Examiner meant to define the slider 24 and the crash cushion 28 as the first and second bays respectively, rather than the frame 22 and slider 24, since the slider 24 is not rotatably mounted to the frame 22 with a rotational joint (76, 78) (Office Action at 3, para. 3). Applicants have prepared this response in line with this assumption.

past 90°. Accordingly, Unrath teaches against the claimed structure and is completely devoid of any suggestion to modify the structure to permit rotation past 90°. Indeed, elimination of the interference between the mounting plate 79 and the channels 72, 72 at 90° would lead to the crash cushion 28 banging into the truck and potentially damaging one or both thereof. Accordingly, such a modification would render the prior art unsatisfactory for its intended purpose, thereby obviating any suggestion to make such a modification (MPEP 2143.01). For at least these reasons, claim 1 is allowable over Unrath and notice to that effect is earnestly solicited.

The Examiner has also asserted that it would be obvious to modify Unrath in view of Anderson to achieve various, specified degrees of rotation between the crash cushion and the slider. Again, Applicants respectfully disagree.

First, the combination of Anderson and Unrath does not teach all of the claim recitations, and therefore fails to make out a prima facie case of obviousness (MPEP 2143.03). In particular, claim 20 recites “said front end of said second bay pivotally connected to said back end of said first bay.” In contrast, Anderson discloses connecting a *front end* of a barrier section 203 with a *front end* of a shell 205 (Figs. 2A and 2B). Indeed, Anderson expressly discloses that the “hinge 209 is positioned above stationary barrier section 203 near *the end* of stationary barrier section 203 *opposite* hinged shell 205” (Col. 6, lines 21-23 (emphasis added)). This construction is required such that the shell 205 clears the space between the barrier sections 203. Accordingly, any incorporation of the pivoting structure of Anderson into Unrath does not disclose or suggest all of the recitations of claim 1.²

Applicants further note that with respect to various dependent claims, both Unrath and Anderson, alone or in combination, fail to disclose the various recitations thereof.

² Applicants submit that it makes no sense to only substitute the piston of Anderson into Unrath, since such a modification would not eliminate the interference between the plate 79 and brackets 72, 74 of Unrath, which prevents rotation past 90°. Indeed, it is the entirety of the structure of Anderson, including the pivot arm, and position of the pivot axes that permits the rotation taught by Anderson. Such a substitution, however, does not meet all of the recitations of claim 1, as just explained.

For example and without limitation, both Unrath and Anderson fail to disclose that the shell can have a rotation angle of greater than 145°, greater than 165°, greater than 180° or substantially equal to 180°, as recited respectively in claims 33, 34, 35 and 22. Indeed, Anderson expressly discloses that the required rotation to clear the opening is 103.285° (Col. 6, lines 29-31 and 60-62). Indeed, as shown in FIGS. 2B, 2C, 4 and 6 of Anderson, the piston 221 will interfere with the shell 205, and in particular the end of gap 225, and/or the pivot arm 211 if the shell is rotated any further.

Likewise, even if Unrath were somehow modified with Anderson, the crash cushion 28, 202 would hit the back of the truck, as shown in FIG. 9, if rotated to the recited angles. Making any dimensional changes to the slider 24 or frame 22 of Unrath to allow for greater rotation would be neither trivial nor obvious. Indeed, such modifications would greatly lengthen the overall attenuator, increase the weight thereof, increases the stress on the attenuator and truck and generally make it more cumbersome and expensive. Accordingly, 33, 34, 35 and 22 are patentable for these additional reasons.

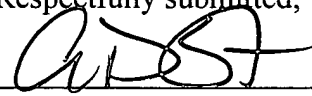
In addition, Applicants note that the upper portion of the shell 205 in Anderson does not face downwardly toward the upper portion of the barrier 203 when the shell is in the “retracted” position, as recited in claim 21, primarily because the hinge 209 and pivot axis are located at the end of the barrier 203 *opposite* the shell (see Fig. 6).

In addition to the failure of Unrath and Anderson, when combined, to teach all of the limitations of various claims, there also is no suggestion to combine those references as suggested by the Examiner. In particular, any attachment of the pivot structure 211 of Anderson to the opposite side of the slider 24 of Unrath, would *increase* the height of the attenuator as it is rotated and require an even greater length of frame 22 to allow the attenuator to rotate thereover. Such modifications would greatly increase the overall length, weight and cost of the attenuator, and would increase the stresses applied to both the attenuator structure and the truck as the center of gravity is shifted away from the truck.

For the foregoing reasons, Applicants submit that claims 20-45 are patentable

over the cited references and notice to that effect is earnestly solicited. Any questions concerning this preliminary amendment should be directed to Applicants' undersigned attorney at 312-321-4713.

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